

# Magnesium Production



## Proposed Rule: Mandatory Reporting of Greenhouse Gases

*Under the proposed Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain magnesium production processes (as defined below) and that emit 25,000 metric tons of GHGs per year or more (expressed as carbon dioxide equivalents) from stationary combustion, miscellaneous use of carbonates, and other source categories (see information sheet on General Provisions) would report emissions from all other source categories located at the facility for which emission calculation methods are defined in the rule. Owners or operators would collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.*

## How Is This Source Category Defined?

Under the proposal, magnesium production and processing facilities are defined as any site where magnesium metal is produced through smelting (including electrolytic smelting), refining, or remelting operations, or any site where molten magnesium is used in alloying, casting, drawing, extruding, forming, or rolling operations.

## What GHGs Would Be Reported?

The proposal calls for each magnesium production facility would report total emissions at the facility level for each of the following gases in kilograms (kg) and in metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) per year resulting from their use as cover gases or carrier gases in magnesium production or processing:

- Sulfur hexafluoride (SF<sub>6</sub>)
- HFC-134a
- The fluorinated ketone FK 5-1-12
- Carbon dioxide (CO<sub>2</sub>)
- Any other fluorinated GHG as defined in 40 CFR part 98, subpart A (General Provisions) of the rule

In addition, each facility would report GHG emissions for other source categories for which calculation methods are provided in the rule. For example, facilities would report CO<sub>2</sub>, nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) emissions from each stationary combustion unit on site by following the requirements of 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources). Please refer to the relevant information sheet for a summary of the proposal for calculating and reporting emissions from any other source categories at the facility.

## How Would GHG Emissions Be Calculated?

Under the proposal, owners or operators of magnesium production facilities would calculate emissions of each gas by monitoring the annual consumption of cover gases and carrier gases using one of three methods:

This document was developed for the *Proposed* Mandatory GHG Reporting Rule. For the final document, please visit the *final* [Mandatory Reporting of Greenhouse Gases Rule](#).

- Using a mass-balance approach that takes into account the following:
  - Decrease in Inventory: The decrease in inventory of cover or carrier gases stored in containers from the beginning to the end of the year.
  - Acquisitions: The amount of cover or carrier gas acquired through purchases or other transactions.
  - Disbursements: The amount of cover or carrier gases disbursed to sources and locations outside the facility through sales or other transactions.
- Monitoring the changes in the masses of individual containers as the gases are used.
- Monitoring the mass flow of pure cover gas and carrier gas into the cover gas distribution system.

## What Information Would Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), the proposal calls for each annual report to include the following information:

- Total facility emissions of each GHG in kg and CO<sub>2</sub>e.
- Type of production process (e.g., primary, secondary, die casting).
- Magnesium production amount in metric tons for each process type.
- Cover gas flow rate and composition.
- Amount of CO<sub>2</sub> used as a carrier gas during the reporting period.
- For any missing data, report the length of time the data were missing, the method used to estimate emissions in their absence, and the quantity of emissions thereby estimated.
- Cover gas usage rate for the facility.
- If applicable, an explanation of any change greater than 30 percent in facility cover gas usage rate (e.g., installation of new melt protection technology or leak discovered in the cover gas delivery system that resulted in increased consumption).

## For More Information

This series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the proposed rule. However, these information sheets are not intended to be a substitution for the rule. Visit EPA's Web site ([www.epa.gov/climatechange/emissions/ghgrulemaking.html](http://www.epa.gov/climatechange/emissions/ghgrulemaking.html)) for more information, including the proposed preamble and rule and additional information sheets on specific industries, or go to [www.regulations.gov](http://www.regulations.gov) to access the rulemaking docket (EPA-HQ OAR-2008-0508). For questions that cannot be answered through the Web site or docket, call 1-877-GHG-1188.